

AMENDMENT AND PRESENTATION OF CLAIMS

Please replace all prior claims in the present application with the following claims. No claim is canceled, withdrawn, amended, or newly presented.

1. (Previously Presented) Apparatus for enabling more than one communicative process to be carried on at the same time over a subscriber line, comprising:

a network interface means for connecting to a circuit switched telephone network;

a telephone interface means for connecting to at least one telephone, wherein the telephone interface means is adapted to patch a call from the one telephone to the circuit switched telephone network via the network interface means upon a determination that no data connection is established to the circuit switched telephone network;

a computer interface means for connecting to at least one computer; and

a routing means for assigning internal network addresses to said telephone and said computer, and selectively routing voice and data signals from said telephone and said computer to and from said circuit switched telephone network via said subscriber line based on said assigned internal network addresses.

2. (Previously Presented) Apparatus of claim 1, further comprising:

a gateway means for packetizing voice signals received from said telephone interface and depacketizing voice signals from said routing means, packetized signals being routed by said routing means for transmission to the circuit switched telephone network and depacketized voice signals being routed to said telephone interface for establishing a telephone conversation between a caller using said telephone and an other caller connected to the circuit switched telephone network via another telephone.

3. (Previously Presented) Apparatus of claim 1, wherein said routing means includes an address conversion and translation means for translating the respective internal network addresses of said telephone and computer to correspond with an external network address of said subscriber line assigned to communicate with the circuit switched telephone network.

4. (Original) Apparatus of claim 1, further comprising:

a packet prioritization module for setting respective priorities for voice and data signals.

5. (Previously Presented) Apparatus of claim 4, wherein said packet prioritization module further prioritizes voice signals over data signals so that voice signals take precedent over data signals when both voice and data signals are being communicated between said apparatus and the circuit switched telephone network using said subscriber line.

6. (Previously Presented) Apparatus of claim 1, wherein said routing means apportions the bandwidth of said subscriber line for selectively routing the voice signals and data signals between said telephone and computer, respectively, and the circuit switched telephone network.

7. (Previously Presented) Apparatus of claim 24, wherein said voice circuit comprises:

an analog to digital converter for converting voice signals from said telephone into digital signals for routing to a gateway that packetizes said digital signals;

a digital to analog converter for converting digital signals depacketized by said gateway into voice signals to be routed to said telephone;

a ring generator for ringing said telephone when a voice signal is received at said gateway;

a dual tone multi-frequency (DTMF) generator for generating an address where to a voice signal from said telephone is to be routed; and

a dial tone generator for generating a dial tone for said telephone when said telephone is taken off hook.

8. (Original) Apparatus of claim 1, further comprising:

a dual tone multi-frequency (DTMF) generator;

a call forward management module working cooperatively with said network interface means for forwarding a call to either said telephone or said computer; and

a message waiting light for informing a user that a voice call has been received and forwarded by said call forward management module to said telephone.

9. (Previously Presented) A communications controller to be used at a site to connect to a circuit switched telephone network, said site including at least one telephone and one computer both adaptable to be accessible to the circuit switched telephone network, said communications controller comprising:

a network interface means for effecting a connection with the circuit switched telephone network via a subscriber line;

a telephone interface means for establishing a connection with said telephone, wherein the telephone interface means is adapted to passively patch a call from said telephone to the circuit switched telephone network via the network interface means;

a computer interface means for establishing a connection with said computer; and

a routing means communicatively connected to the circuit switched telephone network, telephone and computer interface means for assigning internal network addresses to said

telephone and said computer, and for selectively routing voice signals and data signals among said telephone and computer and the circuit switched telephone network, so that both voice and data signals are communicated between said site and the circuit switched telephone network using said subscriber line based on said internal network addresses.

10. (Previously Presented) Communications controller of claim 9, wherein said routing means includes an address conversion and translation means for assigning said internal network addresses for said telephone and computer, and correlating said internal network addresses with an external network address of said subscriber line assigned by the circuit switched telephone network; and

wherein said routing means selectively routes the voice and data signals between said telephone and computer, respectively, and the circuit switched telephone network by establishing respective connections between said external network address of said subscriber line and said internal network addresses of said telephone and said computer so that both voice and data signals can be exchanged between said telephone and said computer connected to said communications controller and devices communicatively connected to the circuit switched telephone network.

11. (Previously Presented) Communications controller of claim 9, further comprising:

a voice circuit communicatively connected to said telephone and said routing means for receiving and converting digital voice signals routed from said routing means into analog voice signals for said telephone, and converting and feeding analog voice signals input from said telephone into digital voice signals for said routing means.

12. (Previously Presented) Communications controller of claim 9, wherein said voice circuit comprises:

- an analog to digital converter for converting voice signals from said telephone into digital signals for routing to a gateway that packetizes said digital signals;
- a digital to analog converter for converting digital signals depacketized by said gateway into voice signals to be routed to said telephone;
- a ring generator for ringing said telephone when a voice signal is received at said gateway;
- a dual tone multi-frequency (DTMF) generator; and
- a dial tone generator for generating dial tone for said telephone when said telephone is taken off hook.

13. (Previously Presented) Communications controller of claim 9, further comprising:

- a gateway means for packetizing voice signals received from said telephone interface means and depacketizing voice signals received from said routing means, packetized voice signals being routed by said routing means for transmission to the circuit switched telephone network and depacketized voice signals being routed to said telephone interface means for establishing a telephone connection between a caller using said telephone and an other caller connected to the circuit switched telephone network via another telephone.

14. (Previously Presented) Communications controller of claim 9, wherein said routing means includes an address conversion and translation means for translating the respective internal network addresses of said telephone and computer to correspond with an external network address of said subscriber line assigned to communicate with the circuit switched telephone network.

15. (Previously Presented) Communications controller of claim 9, wherein said routing means apportions the bandwidth of said subscriber line for selectively routing the voice signals and data signals between said telephone and computer, respectively, and the circuit switched telephone network.

16. (Previously Presented) Communications controller of claim 13, further comprising:

a packet prioritization module for setting respective priorities for voice and data signals, said packet prioritization module prioritizing voice signals over data signals so that voice signals take precedent over data signals when both voice and data signals are being communicated between said site and the circuit switched telephone network using said subscriber line.

17. (Previously Presented) A method of utilizing a subscriber line at a site to provide voice and data communication with a circuit switched telephone network, comprising the steps of:

connecting said subscriber line to a network interface for effecting a connection with the circuit switched telephone network;

connecting a telephone to a telephone interface for establishing a connection with said telephone;

determining whether a data connection is established with the circuit switched telephone network;

patching a call initiated from the telephone to the circuit switched telephone network via the network interface means based upon the determining step;

connecting a computer to a computer interface for establishing a connection with said computer; and

communicatively connecting a routing means to the circuit switched telephone network, telephone and computer interfaces for assigning internal network addresses to said telephone and said computer, and for selectively routing voice signals and data signals among said telephone and computer and the circuit switched telephone network, so that both voice and data signals are communicated between said site and the circuit switched telephone network using said subscriber line based on said assigned internal network addresses.

18. (Previously Presented) Method of claim 17, wherein said routing means apportions the bandwidth of said subscriber line for selectively routing the voice signals and data signals.

19. (Previously Presented) Method of claim 17, wherein said communicatively connecting step further comprises the step of:

prioritizing voice signals over data signals so that voice signals take precedent over data signals when both voice and data signals are being communicated between said site and the circuit switched telephone network using said subscriber line.

20. (Previously Presented) Method of claim 17, further comprising the steps of:

correlating said internal network addresses with an external network address of said subscriber line assigned by the circuit switched telephone network; and

establishing respective connections between said external network address of said subscriber line and said internal network addresses of said telephone and computer for selectively routing the voice and data signals between said telephone and computer, respectively, and the circuit switched telephone network to thereby exchange both voice and data signals

between said telephone and said computer and devices communicatively connected to the circuit switched telephone network.

21. (Previously Presented) Method of claim 17, further comprising the step of:

communicatively connecting a voice circuit to said telephone and said routing means for receiving and converting digital voice signals routed from said routing means into analog voice signals for said telephone, and converting and forwarding analog voice signals output from said telephone into digital voice signals for said routing means.

22. (Previously Presented) Method of claim 17, further comprising the steps of:

converting analog voice signals from said telephone into digital voice signals for routing to a gateway that packetizes said digital voice signals;
converting digital voice signals depacketized by said gateway to analog voice signals to be routed to said telephone;
ringing said telephone when a voice signal is received at said gateway; and
generating a dial tone for said telephone when said telephone is taken off hook.

23. (Previously Presented) Method of claim 17, further comprising the step of:

packetizing voice signals received from said telephone interface and depacketizing voice signals from said routing means, packetized signals being routed by said routing means for transmission to said circuit switched telephone network and depacketized voice signals being routed to said telephone interface for establishing a telephone connection between a caller using said telephone and another caller connected to said circuit switched telephone network via another telephone.

24. (Original) Apparatus of claim 1, further comprising:

a voice circuit for receiving and converting data routed from said routing means to said telephone, and for converting and feeding voice signals input from said telephone to said routing means.

25. (Previously Presented) A communications device configured to communicate with a circuit switched telephone network over a subscriber line, comprising:

a plurality of interfaces respectively configured to communicate with a telephone, a computer, and the circuit switched telephone network over the subscriber line; and

logic configured to assign respective internal network addresses for the telephone and the computer, translate between the respective internal network addresses and an external network address assigned to the subscriber line, and route voice and data signals among the telephone and the computer and the circuit switched telephone network over the subscriber line based on the assigned internal network addresses and the external network address assigned to the subscriber line, wherein the plurality of interfaces support patching a call from the telephone to the circuit switched telephone network upon a determination that no data connection is established to the circuit switched telephone network.

26. (Previously Presented) A method for communicating with a circuit switched telephone network over a subscriber line using a communications device, the method comprising:

determining whether a data connection is established with the circuit switched telephone network;

patching a call initiated from a telephone to the circuit switched telephone network based upon the determining step;

assigning respective internal network addresses for the telephone and a computer;

translating between the respective internal network addresses and an external network address assigned to the subscriber line; and

routing voice and data signals between the telephone and the computer and the circuit switched telephone network over the subscriber line based on the assigned internal network addresses and the external network address assigned to the subscriber line.

27. (Previously Presented) Apparatus of Claim 2, wherein the gateway means is configured to map a telephone number compatible with the circuit switched telephone network to one of the internal network addresses.

28. (Previously Presented) Apparatus of Claim 13, wherein the gateway means is configured to map a telephone number compatible with the circuit switched telephone network to one of the internal network addresses.

29. (Previously Presented) Method of Claim 17, further comprising:

mapping a telephone number compatible with the circuit switched telephone network to one of the internal network addresses.